

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/051064

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H03F3/45

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 734 297 A (HOGERVORST RONALD ET AL) 31 March 1998 (1998-03-31) column 4, line 20 - line 54; figures 2,3 -----	1,9-13
A	OPRIS I E ET AL: "A RAIL-TO-RAIL PING-PONG OF-AMP" IEEE JOURNAL OF SOLID-STATE CIRCUITS, IEEE INC. NEW YORK, US, vol. 31, no. 9, 1 September 1996 (1996-09-01), pages 1320-1324, XP000638074 ISSN: 0018-9200 the whole document -----	1-13
A	US 4 392 112 A (SCHADE JR OTTO H) 5 July 1983 (1983-07-05) column 2, line 54 - column 4, line 56; figures 1,3 -----	1,2,5-8



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\* & \* document member of the same patent family

Date of the actual completion of the international search

26 October 2004

Date of mailing of the international search report

03/11/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Kurzbauer, W

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/051064

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5734297	A	31-03-1998	DE 69707799 D1 DE 69707799 T2 EP 0829132 A2 WO 9737428 A2 JP 11506596 T	06-12-2001 29-05-2002 18-03-1998 09-10-1997 08-06-1999
US 4392112	A	05-07-1983	NONE	